

Global Analysis and Information Network



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WELCOME!!!



Third GAIN World Conference

Hosted by  **UNITED**
AIRLINES

**November 3-5, 1998
Long Beach, California**

Worldwide Airline Fatality Rate*

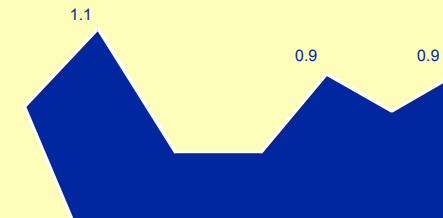


AN INTERNATIONAL COMPARISON THE WORLD'S 85 MAJOR AIRLINES BY REGION

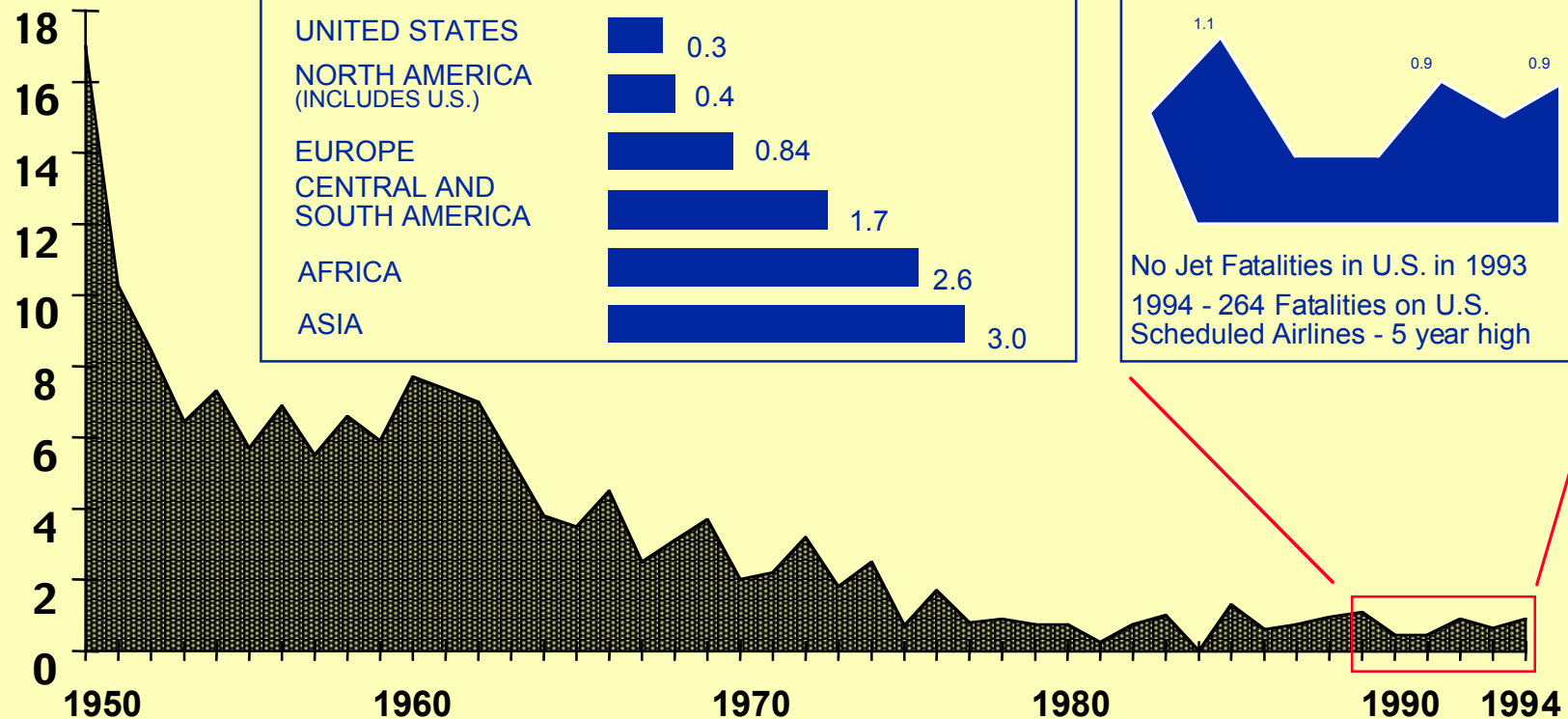
AUSTRALASIA	0.0
UNITED STATES	0.3
NORTH AMERICA (INCLUDES U.S.)	0.4
EUROPE	0.84
CENTRAL AND SOUTH AMERICA	1.7
AFRICA	2.6
ASIA	3.0

THE LAST 6 YEARS

FATALITIES PER MILLION
PASSENGERS WORLDWIDE



No Jet Fatalities in U.S. in 1993
1994 - 264 Fatalities on U.S.
Scheduled Airlines - 5 year high



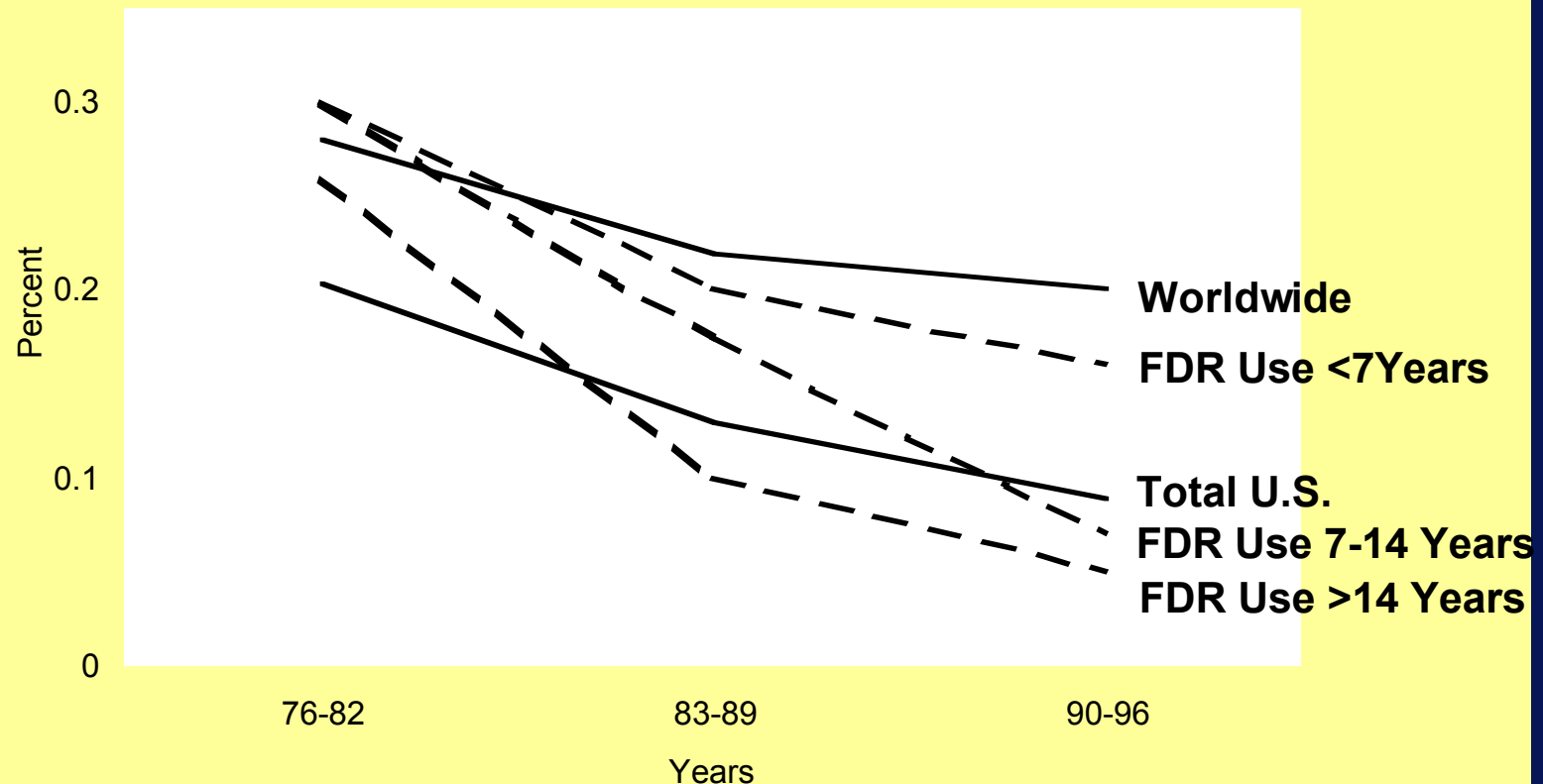


**“We All Knew About
That Problem”**

Benefits of FDR Use

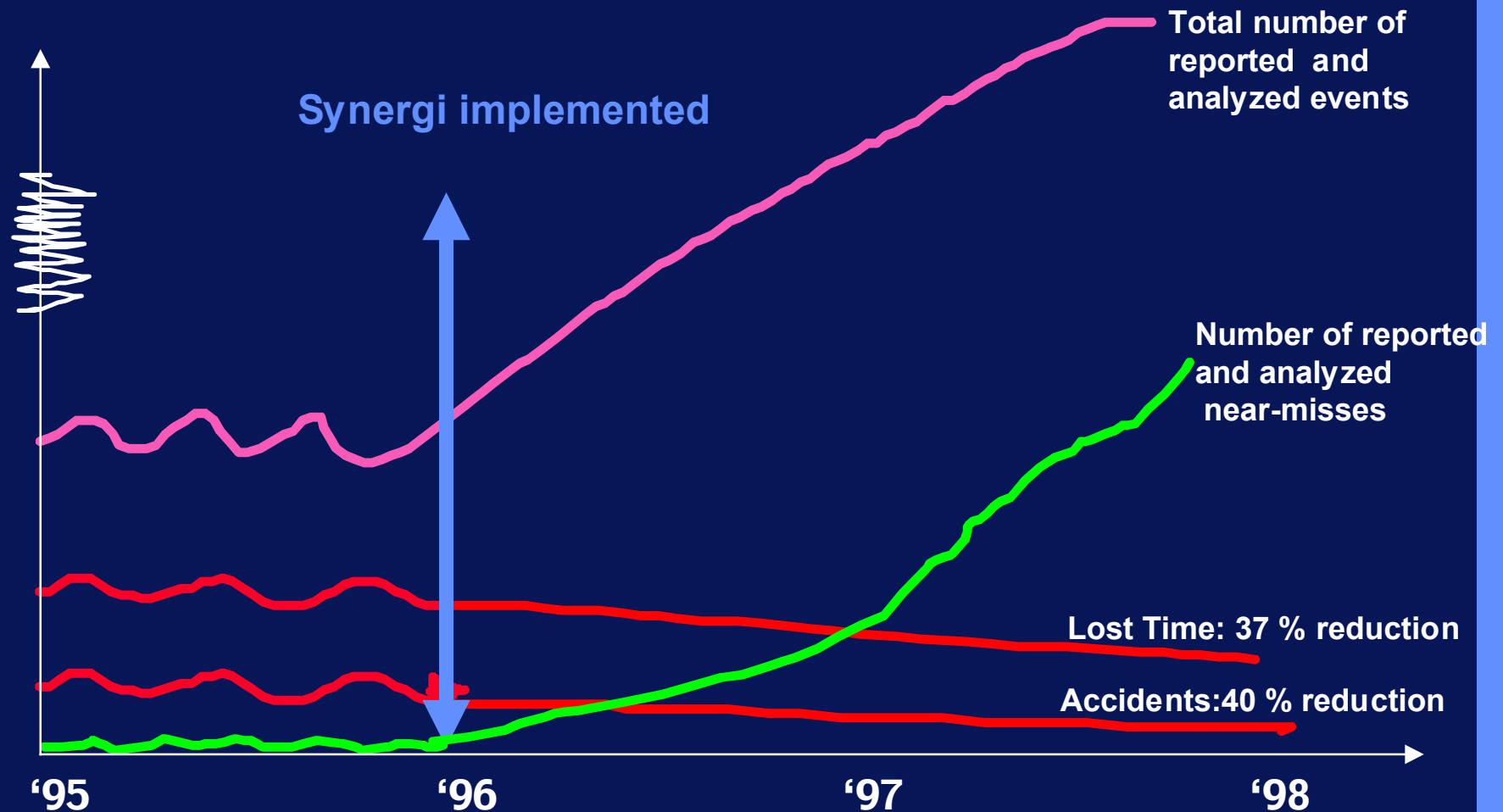


Hull Losses as a Percent of Total Turbine Fleet
Flight Data Recorder Users vs. U.S. vs. World



Sources: Total U.S.- FAA NASDAC
Other - Skandia Insurance Co. Ltd.

Norwegian Rail Experience



Source: Pride AS

Current System Data Flow



**Almost all Data
is Lost Forever**



**Currently Only a Minute
Portion of Data is
Collected and Analyzed**

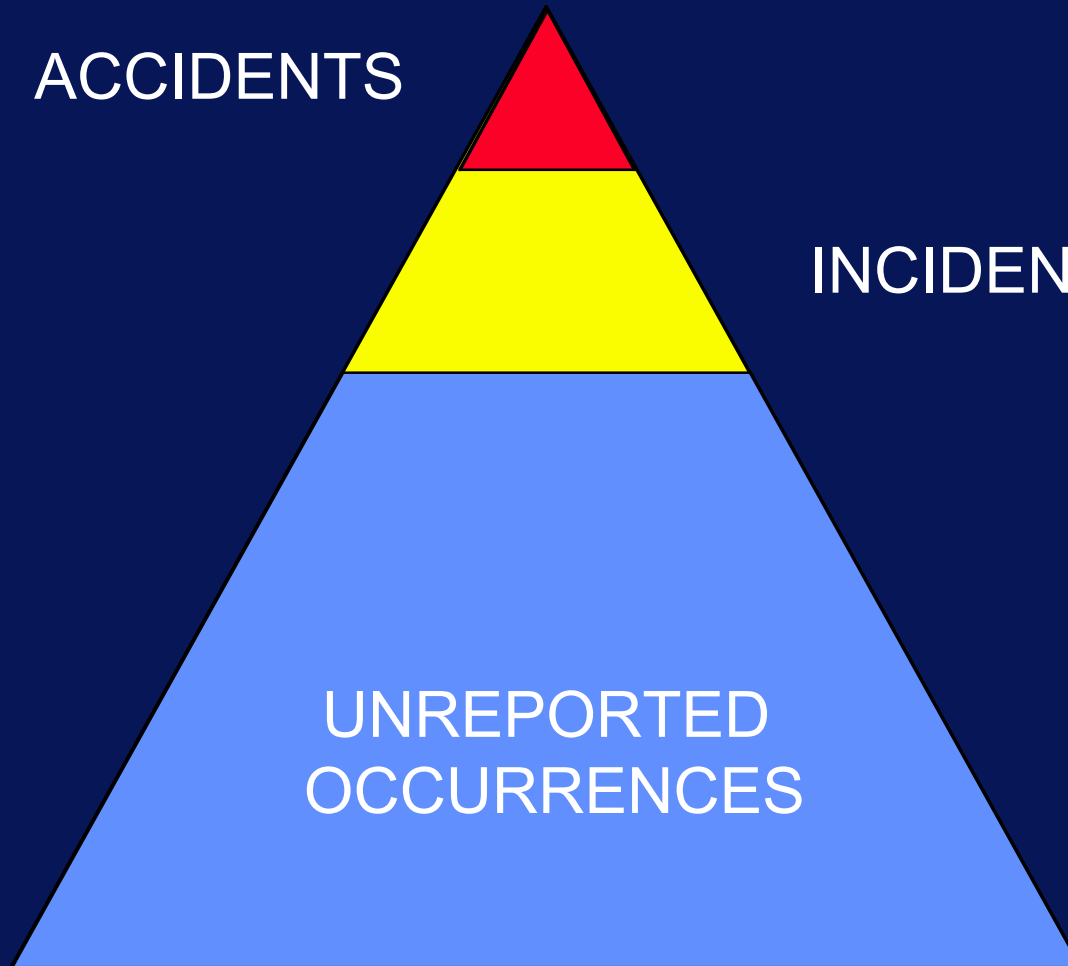
Heinrich Pyramid



ACCIDENTS

INCIDENTS

UNREPORTED
OCCURRENCES



Common Characteristics



- **Inadvertent**
- **Could Be A Link
In An Accident Chain**
- **Happens Repeatedly**

So Should We...



- Regulate More?
- Punish More?
- Increase Training?

OR...

**Share
Information to
Fix the System?**

Fix the Person or the System?



Is the Person
Clumsy?

Or Is the
Problem . . .



Fix the Person or the System?



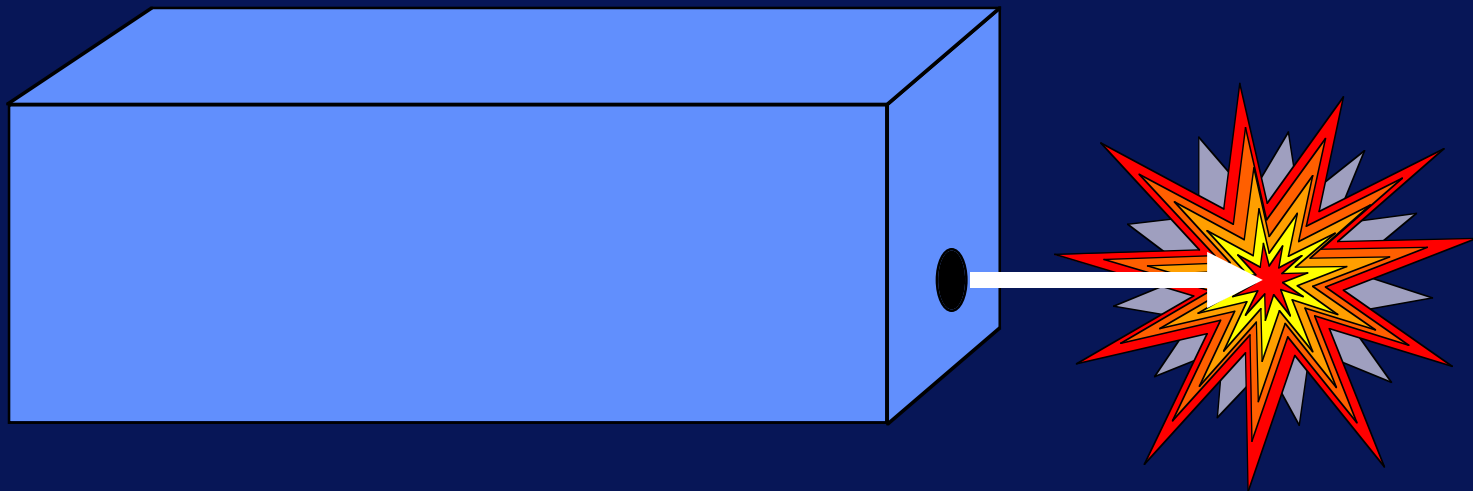
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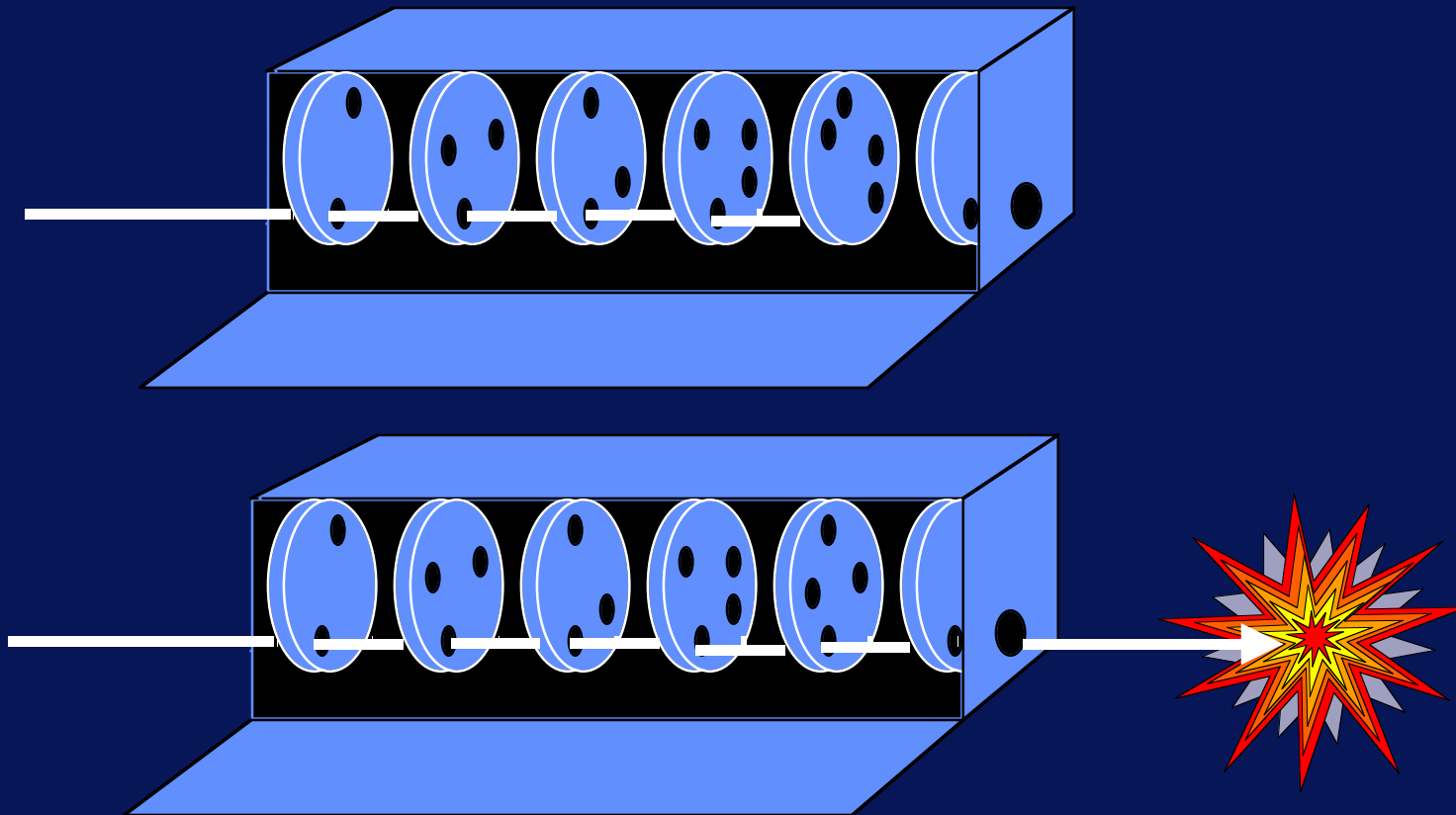
The Step???



Is This Light Random?

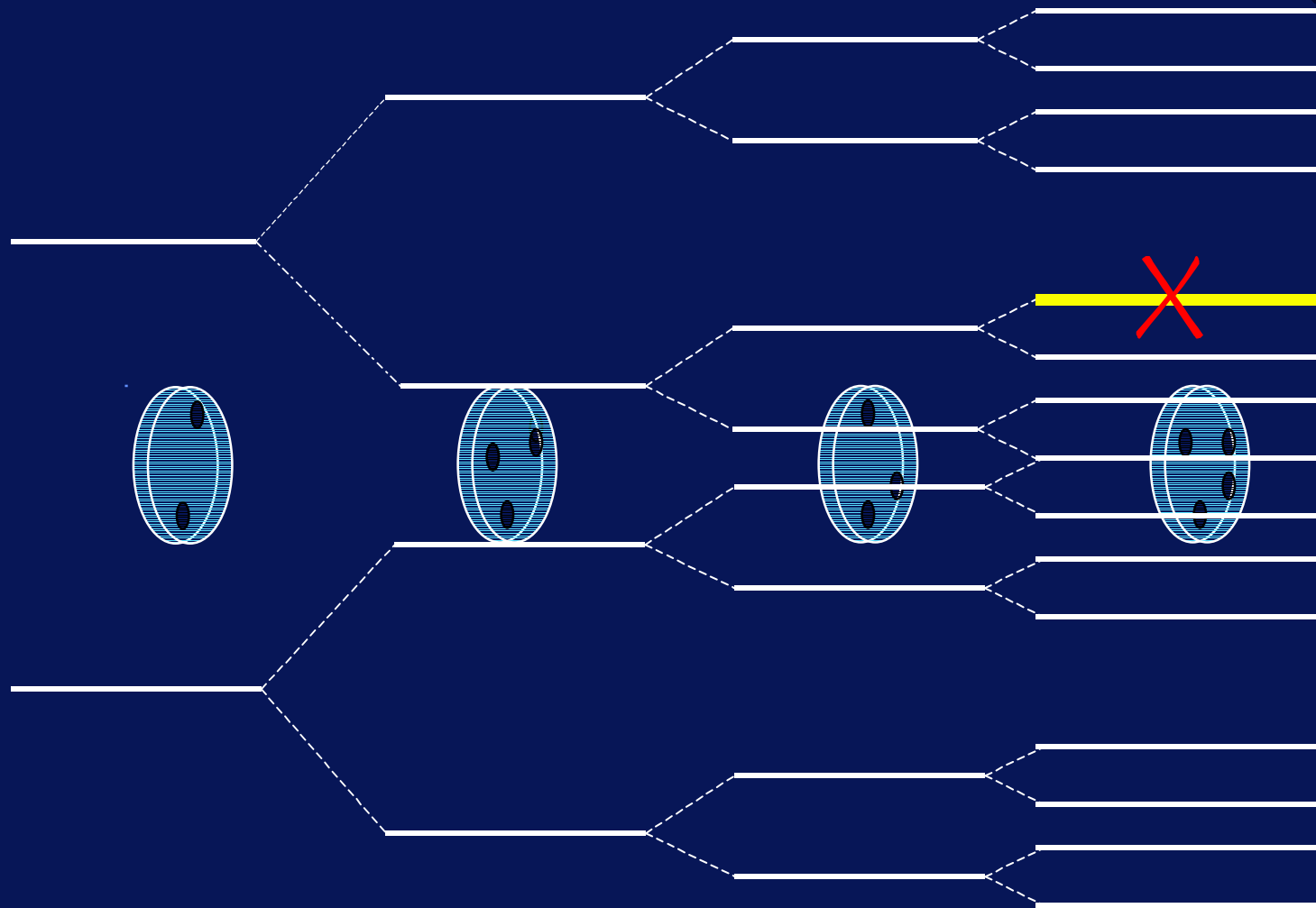


Accidents Result From a Combination of Events



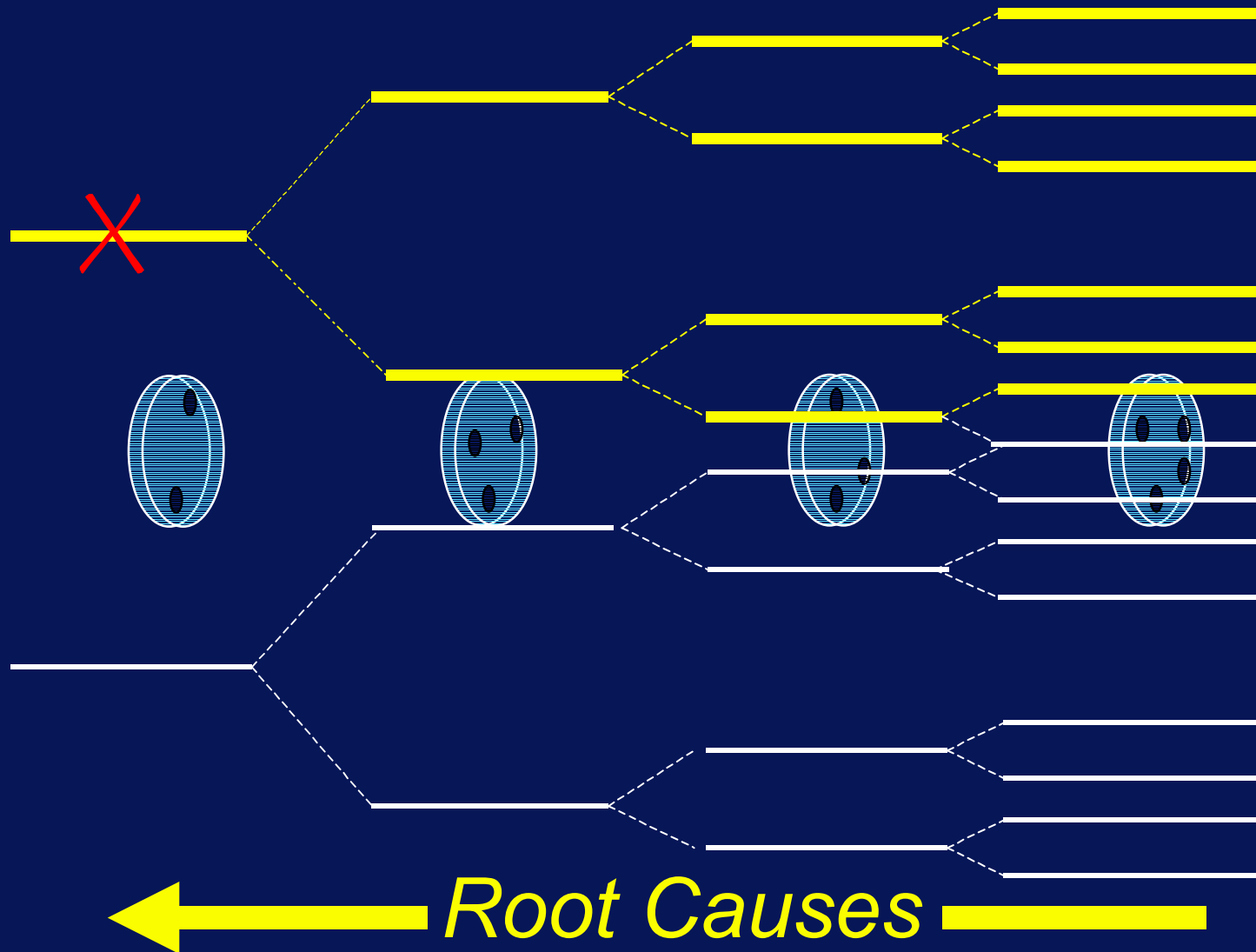
← *Root Causes* →

Eliminating an Active Problem



Root Causes

Eliminating a Latent Problem -- Moving Toward Root Cause



Global Analysis and Information Network: The Concept



What is GAIN



The voluntary sharing of safety information within and among networks of users in the international aviation community to improve aviation safety

Three Domains For GAIN



Flight Deck

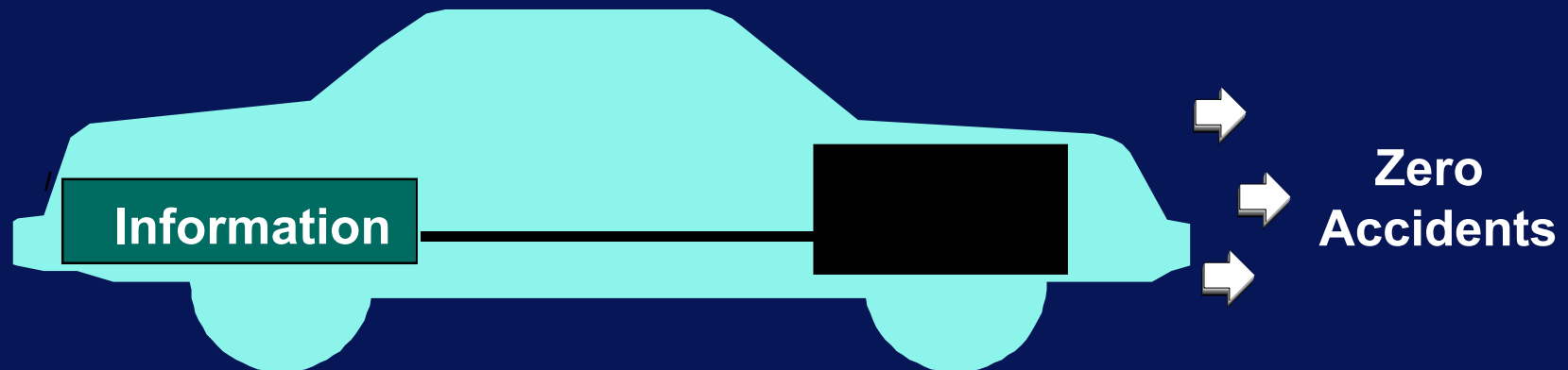


ATC



Maintenance

Information: The Fuel for Our Engine



Obstacles that Block the Flow of Information



Concerns About

- Public Disclosure
- Job Sanctions/Enforcement
- Criminal Sanctions
- Civil Litigation

Obstacles



Legal Issues

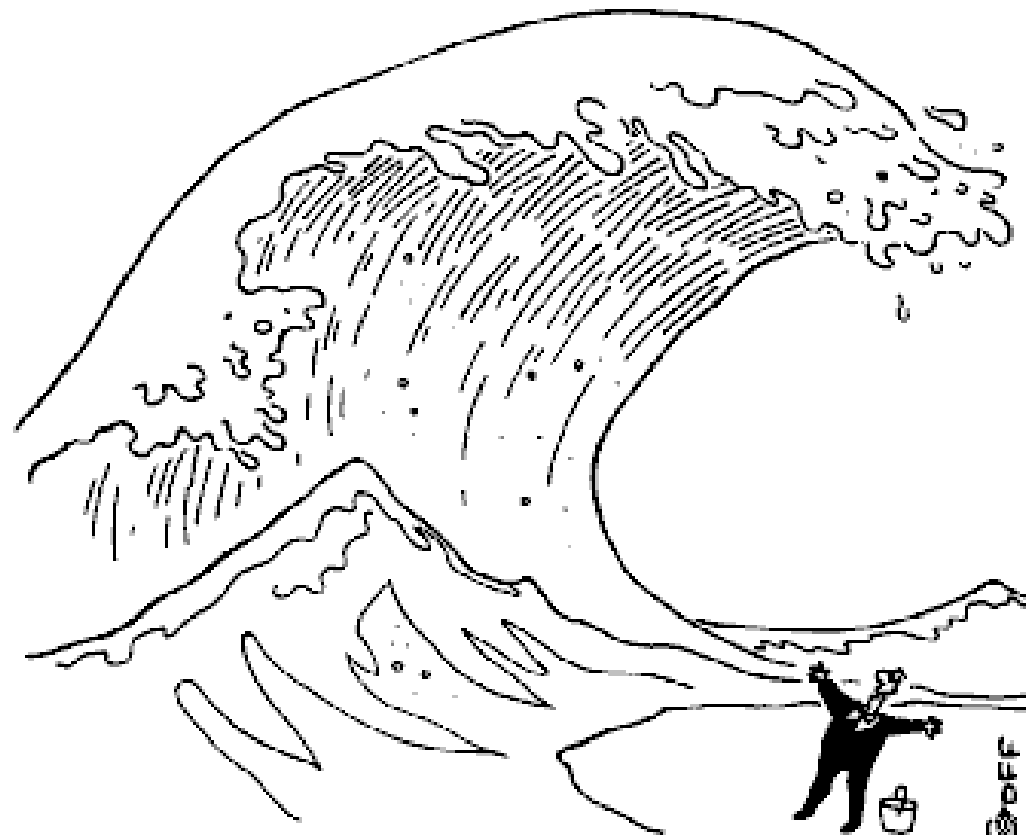
Improved Analytical Tools

As we begin to get over the first hurdle, we must start working on the second.

Information Overload



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"EUREKA! MORE INFORMATION!"

Analytical Tools



Must be able to help analysts:

- Identify Potential Problems
- Prioritize Potential Problems
- Develop Solutions
- Evaluate Success

Many Have Already Begun The Process



\$avings

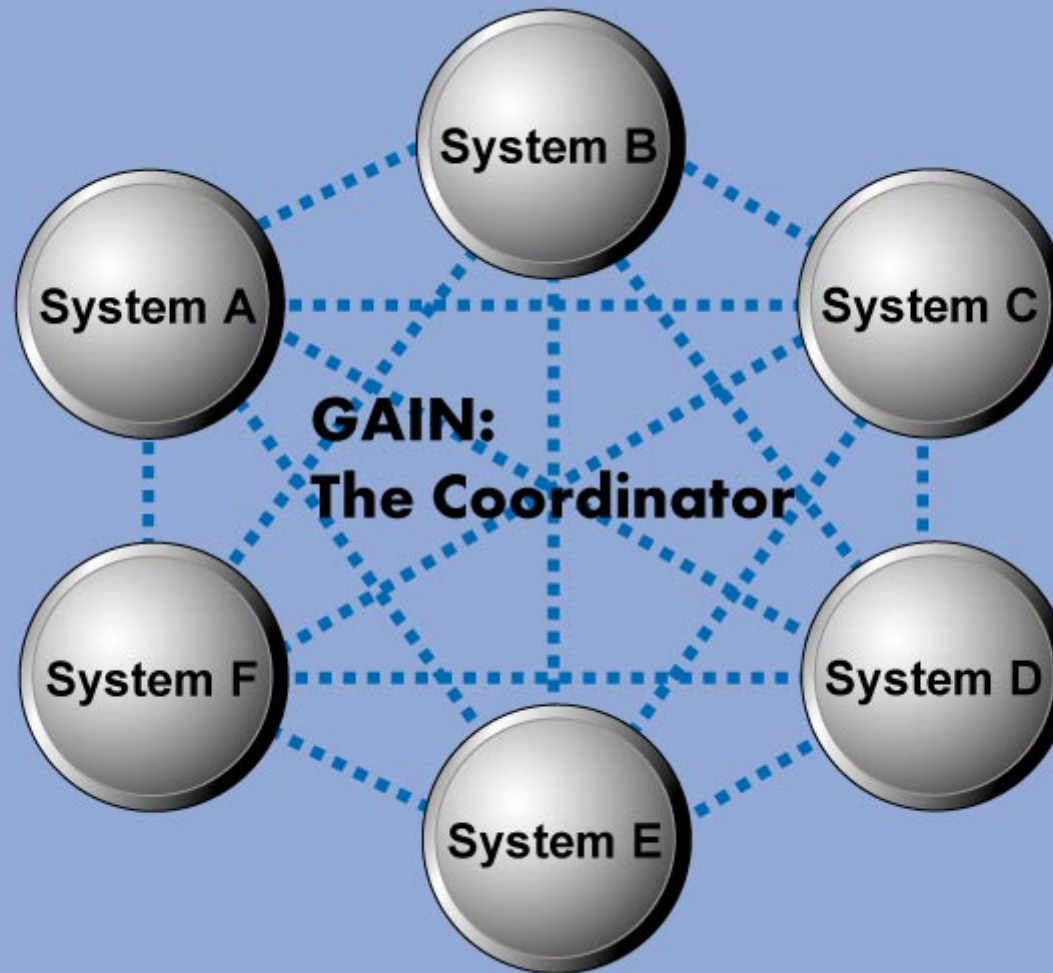


**OPERATIONS
&
MAINTENANCE**

Immediate
Benefits

ACCI DENT
PREVENTION
Long-Term
Benefits

Network, Not Competition



YOU Decide:



- Whether to be in the Network --
COMPLETELY VOLUNTARY
- What Outsiders, If Any, Could Access Your Raw Data (Probably Nobody)
- What Data Standards to Use
- What Analytical Protocols to Use
- Who Would Analyze Your Data
- How Much and When to De-Identify Your Data and Analysis
- What Outsiders, If Any, Could Access Your Analysis

GAIN Would:



- Operate the “Phone Lines”
- Manage the Communications Infrastructure
- Connect You to the Network -- But Only Upon Your Request
- Suggest Data Standards
- Suggest Analytical Protocols for Consistency

And When You Are
In The Network...



You Will **ALWAYS** Have
SOLE AND COMPLETE
CONTROL

Over Your **Data**
And Its **Analysis**

From Concept to Reality



- **Concept Paper Issued - May 1996**
 - 77 responses received
- **Boston Workshop - October 1996**
 - Working Groups
 - Conference Planning Committee
- **London Conference - May 1997**
 - UK CAA and FAA
 - Royal Aeronautical Society
- **Steering Committee Formed - August 1997**

Steering Committee



- **Airlines**
 - Air Transport Association
 - British Airways
 - Japan Airlines
 - Air France
- **Manufacturers**
 - Airbus Industrie
 - Boeing
- **Labor**
 - Pilots
 - Mechanics
 - Air Traffic Controllers
- **Military**

Conference Objectives



Increase worldwide knowledge of and participation in GAIN by:

- Demonstrating the **benefits of collecting and analyzing** technical and operational safety information
- Discussing **solutions for sharing safety information**, including methods for protecting shared information; and
- Presenting **techniques and tools for analyzing** safety-related information

The Conference



Days 1 and 2 -- Informative

- Success Stories From Those Who Are Doing It
- Collection, Analysis, and Sharing of Information

Day 3 -- Interactive and “Hands-On”

- How YOU Can
 - Start Your Own Safety Data Collection Program
 - OR
 - Improve Your Data Collection Program
- The Ultimate Goal -- Sharing

Day 3 (con't) -- The Future



Opportunity for **YOUR** Input:
How To Continue Developing a
WIN-WIN-WIN

Steering Committee

Working Groups

THANK YOU!!!



For...

Attending the Conference

Continuing to Participate

**Helping to Improve Worldwide
Aviation Safety**

Please Visit and Explore...



www.gainweb.org